

# Transmittal

Mr. Jason Eppler, City Manager  
City of Ionia  
Box 496  
114 North Kidd Street  
Ionia, MI 48846

February 23, 2009

Re: Traffic Calming Study

Project No. G080051J

1 For Review  
1 For Your Use  
1 As Requested

Sent By: Christopher E. Wall, P.E., PTOE/dmg

COPIES	DATE	DESCRIPTION
1	02/23/2009	Traffic Calming Study

## COMMENTS

Enclosed are the requested 15 copies of the referenced Traffic Calming Study. An electronic copy was also made available to you on February 23, 2009.

By UPS

39255 Country Club Dr.  
Suite B-25  
Farmington Hills, MI  
48331  
ph: 248.324.2090  
fax: 248.324.0930  
www.ftch.com



# Traffic Calming Study

## City of Ionia, Michigan



February 23, 2009  
Project No. G080051J

**ftc&h**

Fishbeck, Thompson, Carr & Huber  
engineers • scientists • architects • constructors

**TRAFFIC CALMING STUDY**  
**CITY OF IONIA, MICHIGAN**

**FEBRUARY 23, 2009**  
**PROJECT NO. G080051J**

## TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Traffic Calming .....	1
1.2	Study Parameters .....	2
2.0	TRANSPORTATION ANALYSIS .....	4
2.1	Data Collection and Review .....	4
3.0	TRAFFIC CALMING RECOMMENDATIONS .....	8
3.1	Adams Street – Dexter Street to Jackson Street .....	8
3.2	Rich Street – Washington Street to Lafayette Street .....	9
3.3	Washington Street – Rich Street to Jefferson Street .....	9
3.4	Washington Street – ICMH Site .....	10
3.5	West Main Street – Dexter Street to Yeomans Street .....	11
3.6	Before-After Study.....	11

## LIST OF TABLES

Table 1	Data Summary.....	6
Table 2	Crash Data Summary .....	7
Table 3	Site Review.....	7

## LIST OF FIGURES

Figure 1	Map of Study Areas
Figure 2	Machine Tube Count Locations
Figure 3	Adams Street Alternative
Figure 4	Rich Street Alternative
Figure 5	Washington Street Alternative
Figure 6	Washington Street ICMH Alternative
Figure 7	West Main Street Alternative

## LIST OF APPENDICES

Appendix 1	Machine Count Data
Appendix 2	Crash Data
Appendix 3	Construction Cost Estimates

## LIST OF ABBREVIATIONS/ACRONYMS

ADA	Americans with Disabilities Act
ADT	average daily traffic
City	City of Ionia
EB	eastbound
FTC&H	Fishbeck, Thompson, Carr and Huber, Inc.
ICMH	Ionia County Memorial Hospital
ITE	Institute of Transportation Engineers
mph	miles per hour
NB	northbound
SB	southbound
sf	square foot/feet
WB	westbound

## 1.0 INTRODUCTION

This document represents the summation of methodologies, analyses, findings, and recommendations of the traffic calming study for selected locations in the City of Ionia, Michigan. The goal of the study was to provide traffic calming and pedestrian safety measure recommendations, to be initiated in areas where driver and/or pedestrian safety is of concern.

### 1.1 TRAFFIC CALMING

Traffic calming can be defined in many ways. The ITE describes traffic calming as *“the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.”*<sup>1</sup> Concern for pedestrian safety and increasing the walkability of an area typically drives the common goals of traffic calming, which are to reduce vehicular volumes and speeds.

There are two main methods used to affect drivers: Psycho-Perceptive Controls and Physical Controls.

1. Psycho-Perceptive Controls are typically road-narrowing measures that provide a sense of enclosure, thereby inducing a driver to alter behavior patterns, such as reducing speed and/or route selection.<sup>2</sup> Measures for narrowing a road include intersection neckdowns, bump-outs, center islands, chokers, etc.<sup>3</sup>
2. Physical Controls affect a driver by modifying road elements so as to physically induce an affect on the driver, thus reducing speeds and/or route selection. Physical controls include vertical and horizontal measures. Vertical measures are speed humps, speed tables, raised intersections, textured pavement, etc. Horizontal measures include modern roundabouts, chicanes, lateral shifts, etc.<sup>4</sup>

Methods and measures have different degrees of impact on speeds and volumes. Each situation is unique; therefore, each requires an independent review of applicable measures.

<sup>1</sup> R. Ewing, Traffic Calming – State of the Practice, Publication No. FHWA-RD-99-135, Federal Highway Administration, Washington, DC, August, 1999

<sup>2</sup> D.L. Harkey, D.W. Reinfurt, M. Knuinan, J.R. Stewart, and A. Sorton, Development of Bicycle Compatibility Index: A Level of Service Concept, Final Report, Publication No. FHWA-RD-98-072, Federal Highway Administration, Washington, DC, December, 1998.

<sup>3</sup> R. Ewing, Traffic Calming – State of the Practice, Publication No. FHWA-RD-99-135, Federal Highway Administration, Washington, DC, August, 1999

<sup>4</sup> R. Ewing, Traffic Calming – State of the Practice, Publication No. FHWA-RD-99-135, Federal Highway Administration, Washington, DC, August, 1999

## 1.2 STUDY PARAMETERS

At the October 13, 2008, Project Kick-off Meeting with the City of Ionia, eleven road locations were discussed for inclusion in the study. Though all represent areas of interest, the list was narrowed down to five immediate priorities. The sites chosen and the text provided by the City for each location are as follows:

- Adams Street – Dexter Street to Jackson Street
  - The majority of this roadway is three lanes and is frequently used by commercial vehicles that make deliveries to downtown businesses. There are several public- and privately-owned parking lots along this street. The three-lane section makes it challenging for pedestrian crossings. In a *2006 Walkable Community Audit* completed by Mr. Dan Burden, it was recommended that “crossing relief islands” be constructed at key pedestrian crossing locations. Areas of concern include Adams Street at Kidd Street; Adams Street at Depot Street; and Adams Street, mid-block between Kidd Street and Depot Street, where Independent Bank employees cross.
- Rich Street – Washington Street to Lafayette Street
  - The considerable grade on the Rich Street hill results in SB motorists exceeding the posted speed limit. The City has received frequent requests from neighborhood residents to make the Rich and Lafayette Streets intersection a four-way stop. Wintertime conditions have prevented this request from being granted. The Rich Street block, between Lafayette and Washington Streets, is frequently congested due to on-street parking for the funeral home, located at the southeast quadrant of the Rich and Lafayette Streets intersection.
- Washington Street – Rich Street to Jefferson Street & at ICMH Facility
  - Washington Street traverses much of the City on an east/west basis. A portion of Washington Street (Dexter Street to Library Street) is within the central business district. The remainder of the street is residential, but is heavily traveled due to commercial traffic and traffic accessing the Ionia County Memorial Hospital (ICMH), and emergency room, between Jefferson Street and Morse Street. The City receives regular complaints from residents regarding the speed of traffic on Washington Street.
  - In addition to addressing the speed of the traffic, the street crossing between the ICMH parking lot on Washington Street (south side) and ICMH/emergency room (north side) is not pedestrian friendly.

- West Main Street – Dexter Street to Yeomans Street
  - West Main Street, west of Dexter Street, is a long, uninterrupted stretch of roadway except for the stop sign at Yeomans Street. The reopening of the Michigan Reformatory prison, located on Wall Street at West Main Street, causes this section of West Main Street to be heavily traveled, especially by employees of the prison. Speeding seems to be a persistent problem.

Figure 1 provides an area map illustrating the locations studied.

Upon reviewing various traffic calming alternatives at the Kick-off Meeting, it was determined the application of roundabouts, speed humps and speed tables were less desirable for the community at this time. Speed humps or speed tables may be acceptable in limited applications; however, neckdowns, bump-outs, islands, and horizontal alignment modifications were deemed much more aesthetically appealing, and therefore, likely more acceptable to the community.



## 2.0 TRANSPORTATION ANALYSIS

Data regarding the five selected sites was gathered and reviewed with respect to applicable traffic calming measures and is presented in the following section.

### 2.1 DATA COLLECTION AND REVIEW

When reviewing traffic calming measures, it is desirable to have base data for each site. This data can speak to the deviation from preferred road behavior characteristics, as well as to which traffic calming method may be most suitable. Base data also provides a point for comparison, if the data is gathered after a measure has been implemented, commonly referred to as a Before-After Study.

Data typically includes vehicular speeds (posted and 85<sup>TH</sup> percentile), vehicular volumes, crash data, intersection control, and road geometry. Machine tube counters were placed at seven locations during the course of three weeks to gather traffic volume and speed data. Figure 2 depicts the machine tube count locations. Data, such as intersection control and basic road geometry, were gathered in the field; the City provided available crash data for the selected areas.

Adams Street, between Dexter and Church Streets, is a three-lane road consisting of one EB lane, one WB lane, and a center left-turn lane. The three lane section of road ends just east of Church Street, where on-street parking starts on both sides of the road. The road width is approximately 40 feet face-to-face of curb. The posted speed limit on Adams Street is 25 mph. Adams Street is stop-controlled at the intersections with Dexter, Steele, and Jackson Streets. Currently, the road is visually wide, which prevents the calming of traffic.



Rich Street, between Washington and Lafayette Streets, is a two-lane road consisting of one NB and one SB lane. The road width is approximately 30 feet face-to-face of curb. The posted speed limit on Rich Street is 25 mph. Rich Street is stop-controlled at the intersection with Washington Street. A steep grade exists on Rich Street north of Lafayette Street, which may influence speeds. On-street parking is prohibited on a portion of Rich Street





apparently due to grade and sight distance issues.

Washington Street, between Rich and Jefferson Streets, is a two-lane road consisting of one EB and one WB lane, with on-street parking only on the north side. The road width is approximately 30 feet face-to-face of curb. The posted speed limit on Washington Street is 25 mph. Washington Street is stop-controlled at both the Jackson Street and Jefferson Street intersections. When parked vehicles are present, the on-street parking can calm road speeds.



Washington Street, at the ICMH site, is a two-lane road consisting of one EB and one WB lane. On-street parking is prohibited in locations adjacent to the ICMH facility. The road width is approximately 30 feet face-to-face of curb. The posted speed limit on Washington Street is 25 mph. Washington Street is stop-controlled at the Jefferson Street intersection. Three pedestrian crossings exist between the parking lots on the south and the hospital complex on the north.



Main Street between Dexter and Yeomans Street is a two-lane road consisting of one EB and one WB lane; on-street parking is permitted on both sides in this area. The road narrows west of Yeomans Street, prohibiting on-street parking. The road width is approximately 40 feet face-to-face of curb. The posted speed limit on Main Street is 25 mph. Main Street is signal-controlled at the intersection with Dexter Street. Past the City limits, the speed limit increases to 40 mph. Currently, the road is visually wide, which prevents calming of traffic.



Machine counts were conducted on days that were basically clear, and are, therefore, representative of typical traffic patterns. Field data, such as geometry, lane configuration, number of lanes, speed limit, etc., were gathered on a field visit conducted on October 13, 2008, and were incorporated into the review to accurately represent existing conditions.

Table 1 lists various data collected from the machine tube counters for each site. Appendix 1 provides a summary of machine count data at the studied locations.

**Table 1 – Data Summary**

Site	Road	Tube Location	ADT	Speed*	Pace Speed	Percent In Pace	Posted (mph)
Adams	Adams Street	West of Depot	4,396	30	22-31	76	25
	Adams Street	East of Church	2,485	30	22-31	81	25
Rich	Rich Street	South of Terrace	1,356	29	20-29	60	25
	Lafayette Street	East of Rich	702	27	19-28	71	25
Washington	Washington Street	East of Rich	2,837	30	22-31	71	25
ICMH	Washington Street	At ICMH	1,501	32	23-32	72	25
Main	Main Street	West of Kimball	4,067	32	24-33	73	25

\* 85<sup>TH</sup> percentile

The ADT is the average daily traffic along the road. The 85<sup>TH</sup> percentile speed is typically how agencies determine the posted speed; therefore, it is desirable to have the 85<sup>TH</sup> percentile speed near the posted speed. The pace speed represents a 10 mph range, within which the majority of people drive. The percent in pace represents the ratio of vehicles within that pace range. Ideally, the posted speed would fall at center to high within the pace range and a high percentage of vehicles would be included in the pace.

The data indicates that the studied roads have an 85<sup>TH</sup> percentile speed greater than their posted speed. The posted speed does reside in the pace speed, yet, in most cases, the posted speed tracks in the middle to lower range. The percent in the pace seems consistent. Rich Street does have a lower percent in pace, which implies more vehicles traveling outside this range, both at slower and faster speeds. Given the road profile, one explanation for this could be driver behavior; where some slow down and others speed up. Lafayette Street shows a difference of only two miles per hour between posted speed and 85<sup>TH</sup> percentile speed. The posted speed falls on the high side of the pace range and the percent pace is consistent with other studied sites.

A review of the summarized crash data indicated no particular pattern or trend that can be greatly mitigated through traffic calming. The intersections with a higher number of crashes also experience higher traffic volumes, which is consistent with expectations. Table 2 summarizes the total number of crashes at intersections for which the City provided data.

**Table 2 – Crash Data Summary**

Intersection	Year 2006	Year 2007	Year 2008 (partial)
Main Street at Yeomens Street	1	3	0
Main Street at Dexter Street	15	17	7
Main Street at Rich Street	0	0	0
Adams Street at Dexter Street	5	10	3
Adams Street at Depot Street	2	1	0
Adams Street at Kidd Street	0	0	0
Adams Street at Jackson Street	0	1	0
Washington Street at Steele Street	1	1	0
Washington Street at Library Street	1	1	0
Washington Street at Jackson Street	3	1	0
Washington Street at Morse Street	0	3	0
Washington Street at Lovell Street	0	0	0
Rich Street at Summit Street	0	0	0

Appendix 2 provides crash data for specific sites provided by the City. Individual crash reports were not reviewed as part of this study.

Based on the data, and City's desire for more appealing and community-acceptable calming applications, FTC&H believes the use of neckdowns, bump-outs, center islands, and horizontal alignment modifications should assist in moderating speeds, while concurrently increasing pedestrian safety through larger refuge areas and narrower street crossings.

Table 3 outlines the reviewed locations, goals, and general technique of traffic calming measures deemed applicable for each site.

**Table 3 – Site Review**

Location	Segment	Goals	General Measures
Adams Street	Dexter St to Jackson St	Improve pedestrian safety, reduce speeds	Narrowing: Bump-outs, center islands
Rich Street	Washington to Lafayette	Improve pedestrian safety, reduce speeds	Narrowing/Shifts: Bump-outs, chicanes
Washington Street	Rich to Jefferson St	Improve pedestrian safety, reduce speeds	Narrowing/Shifts: Bump-outs, chicanes
Washington Street	Adjacent to ICMH site	Improve pedestrian safety, reduce speeds	Narrowing: Bump-outs, center islands, access reduction
West Main Street	Dexter St to Yeomans	Reduce speeds	Narrowing/Shifts: Road narrowing, chicanes

### **3.0 TRAFFIC CALMING RECOMMENDATIONS**

The following section provides recommendations on possible traffic calming measures that could be installed at the studied locations.

City parking regulations were reviewed for each measure and found to be in compliance. 'No Parking' signs should accompany each recommendation, as applicable. It should be noted that on-street parking is currently prohibited 15 feet from an intersection.

Detailed survey and engineering plans should be prepared for improvements and carried forward to construction so as to properly manage site-specific constraints. Lane width reductions assist in the calming of traffic; widths of 10 to 11 feet should be reviewed during the engineering design process.

In the cost estimates, traffic calming measures, such as islands, were assumed to consist of concrete surfaces. Bump-outs and neckdowns were assumed to be surfaced with grass. Other options are available to filling these areas, such as landscaping, brick pavers, etc.

#### **3.1 ADAMS STREET – DEXTER STREET TO JACKSON STREET**

Add more 25 mph speed limit signs along route. This will assist with informing drivers of the proper speed. Move the crosswalk located at the alley/parking lot (east of Depot Street) slightly to the west; install appropriate ADA ramps on both approaches, and install a center island for pedestrian refuge. Consideration should be given to pedestrian signing and special emphasis markings for mid-block crossings. This will have an operational impact on EB left turns into the north parking lot; however, based on parking spaces available, this impact should be minimal. Consideration should be given for a neckdown or center island near the mid-block between Steele and Depot Streets. Consideration should be given for another two locations for neckdowns or center islands east of Church Street. These improvements should increase pedestrian safety by providing additional pedestrian refuge areas, while at the same time affecting driving behavior through the narrowed and shifted road, which will likely result in a reduction in vehicular speeds.

The construction cost for the improvements is estimated to be approximately \$62,000. See Figure 3 for an engineer's rendering of the improved areas and Appendix 3 for related cost estimate detail. This cost represents estimated construction costs only. The summarized cost estimate in Appendix 3 includes assumed costs for geotechnical investigation, material testing, and design and construction engineering.

### **3.2 RICH STREET – WASHINGTON STREET TO LAFAYETTE STREET**

Considering the 15 foot parking prohibition at the intersection on all approaches, which generally align with the far side of sidewalk ramps, thought should be given to shortened bump-outs on all quadrants of Rich and Lafayette Streets. The curb transitions, from bump-out to existing curb, could be shortened, thus minimizing impacts to on-street parking. Improvements to on-street parking efficiency could also be considered with the installation of pavement markings to delineate parking spaces on selected road segments. Add more 25 mph speed limit signs along route to reinforce appropriate speed. Consider adding a neckdown to the west side of the road across from Terrance Avenue and remove the affected parking. The bump-outs should increase pedestrian safety by providing additional refuge areas, while at the same time, assist in reducing vehicular speeds.

The construction cost for the improvements is estimated to be approximately \$32,000. See Figure 4 for an engineer's rendering of the improved areas and Appendix 3 for related cost estimate detail. This cost represents estimated construction costs only. The summarized cost estimate in Appendix 3 includes assumed costs for geotechnical investigation, material testing, and design and construction engineering.

### **3.3 WASHINGTON STREET – RICH STREET TO JEFFERSON STREET**

Add more 25 mph speed limit signs along route to assist appropriate driving speeds. At the intersection of Washington and Rich Streets, add bump-outs on all quadrants and remove the affected parking. Consider adding neckdowns to the north and/or south side of Washington Street in the mid-block between Rich and Jackson Streets. Consider adding neckdowns to the north and/or south side(s) of Washington Street in the mid-block between Jackson and Jefferson Streets and remove the affected parking. These improvements should increase pedestrian safety by providing additional pedestrian refuge area, while at the same time affecting driving behavior through the narrowed and shifted road, which will likely result in a reduction in vehicular speeds.

Additionally, despite the four-way stop-controlled intersections at Washington/Jackson Streets and Washington/Jefferson Streets, bump-outs are recommended. The bump-outs set the tone for drivers entering the blocks; define the on-street parking; and provide reduced road width for pedestrian crossing, which should increase pedestrian safety.

The construction cost for the improvements is estimated to be approximately \$103,000. See Figure 5 for an engineer's rendering of the improved areas and Appendix 3 for related cost estimate detail. The above cost represents estimated construction costs only. The summarized cost estimate in Appendix 3 includes assumed costs for geotechnical investigation, material testing, and design and construction engineering.

### 3.4 WASHINGTON STREET – ICMH SITE

Add more 25 mph speed limit signs along route to assist appropriate driving speeds. Consideration should be given to consolidating the three pedestrian crosswalks into two crosswalks and placing them at the two driveways accessing the southern parking lot. Then install a center island extending between the two main entrances of ICMH; coordinate pedestrian crossings through the center island, as feasible. Given the current driveway situation, it is difficult to do such consolidation. Therefore, at a minimum, consideration should be given to installing center islands at the crossings. Place new sidewalk ramps in accordance with the ADA requirements. Consider installing decorative fencing along the parking lot to better enforce and direct pedestrians to the appropriate crossings. Coordinate pedestrian crossings through the parking lot and into the center islands, as feasible. Continue to prohibit on-street parking along this segment. Further review of turning movement operations at the proposed islands should be performed during the design phase. The island improvements should increase pedestrian safety by providing additional pedestrian refuge areas, while at the same time affecting driving behavior through the narrowed and shifted road, which will likely result in a reduction in vehicular speeds.

The construction cost for the improvements is estimated to be approximately \$32,000. See Figure 6 for an engineer's rendering of the improved areas and Appendix 3 for related cost estimate detail. This cost represents estimated construction costs only. The summarized cost estimate in Appendix 3 includes assumed costs for geotechnical investigation, material testing, and design and construction engineering.

Please note the drive configuration illustrated in Figure 6 represents the reconstruction project performed in 2005.

### **3.5 WEST MAIN STREET – DEXTER STREET TO YEOMANS STREET**

Consideration should be given to adding approximately three neckdown locations along West Main Street between Dexter and Yeomans Streets and removing the affected parking. This will narrow the road and better define on-street parking. An alternative to the neckdowns would be to install islands. No on-street parking should be allowed adjacent to the islands. The narrowed and shifted road should assist in reducing vehicular speeds.

West of the intersection with Yeomans, Main Street narrows to a two-lane road with no on-street parking. The observed speeds along this segment are likely a function of the transition between rural and city environments. Additional speed limit signs should be placed for both directions traveled, enforcement should routinely target this zone, and consideration should be given to a mini-gateway improvement project. The mini-gateway project should be placed at a key location, on both sides of the road, thus affecting drivers entering/leaving the City. The project could consist of signs and landscaping to visually narrow the road width and better define the speed transition zone.

The construction cost for improvements between Dexter and Yeomans Streets is estimated to be approximately \$36,000. See Figure 7 for an engineer's rendering of the improved areas and Appendix 3 for related cost estimate detail. This cost represents estimated construction costs only. The summarized cost estimate in Appendix 3 includes assumed costs for geotechnical investigation, material testing, and design and construction engineering. An estimated construction cost for improvements west of the Yeomans Street intersection was not calculated, as the cost rests entirely on the extent of gateway project installed.

### **3.6 BEFORE-AFTER STUDY**

After traffic calming measures have been implemented for each of the studied areas, consideration should be given to reviewing vehicular speeds and traffic volumes. A Before-After analysis should then be performed to determine the impact of such measures in the City.



# Figures

**City of Ionia**  
Traffic Calming Study

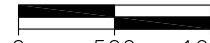
**Map of Study Areas**



**LEGEND**

 STUDY AREAS



SCALE: 1" = 1000'  
  
0 500 1000

PROJECT NO.

G080051J

FIGURE

**1**

PLOT INFO: U:\CADD\080051J\CD\C002080051J.DWG DATE: 2/20/2009 TIME: 8:51:40 AM USER: MJA



## LEGEND

— MACHINE TUBE COUNT LOCATION



SCALE: 1" = 1000'  
0 500 1000

fic&h

engineers

scientists

architects

constructors

flshbeck, thompson,  
carr & huber, Inc.

Hard copy is  
intended to be  
8.5"x11" when  
plotted. Scale(s)  
indicated and  
graphic quality may  
not be accurate for  
any other size.

## City of Ionia Traffic Calming Study

### Machine Tube Count Locations

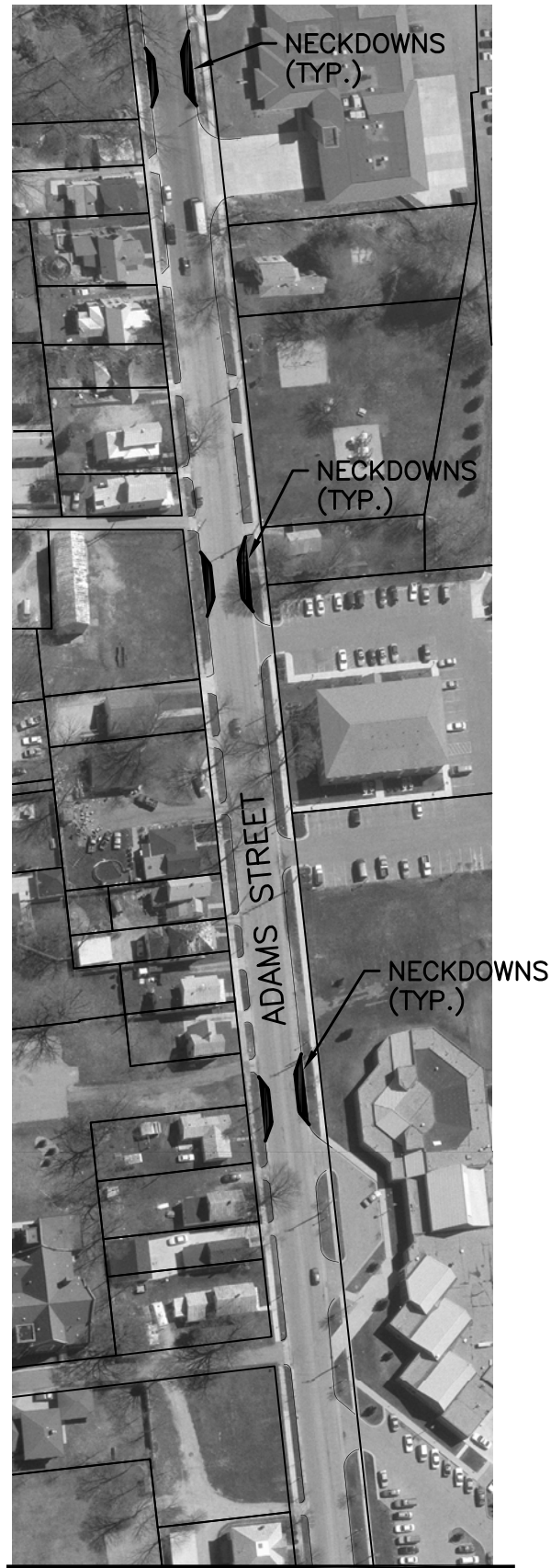
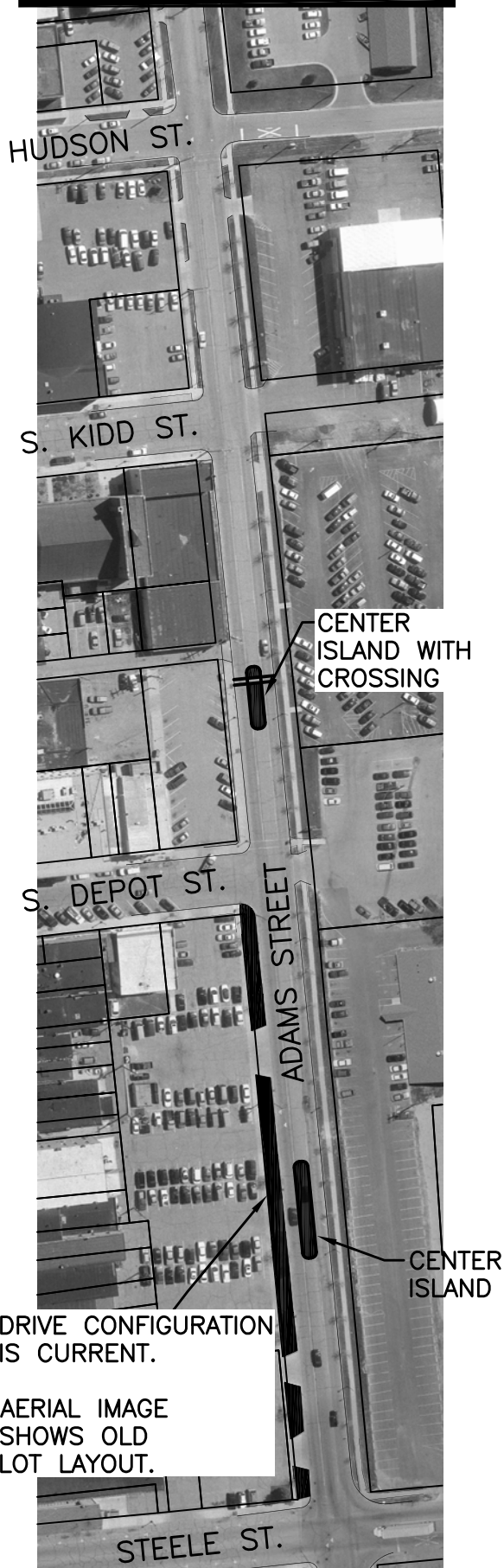
PROJECT NO.

G080051J

FIGURE

2

MATCH LINE THIS SHEET



MATCH LINE THIS SHEET



SCALE: 1" = 150'

0 75' 150'

**fitch**

engineers

scientists

architects

constructors

fitch, thompson,  
carr & huber, inc.

Hard copy is  
intended to be  
8.5"x11" when  
plotted. Scale(s)  
indicated and  
graphic quality may  
not be accurate for  
any other size.

**City of Ionia**  
Traffic Calming Study

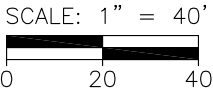
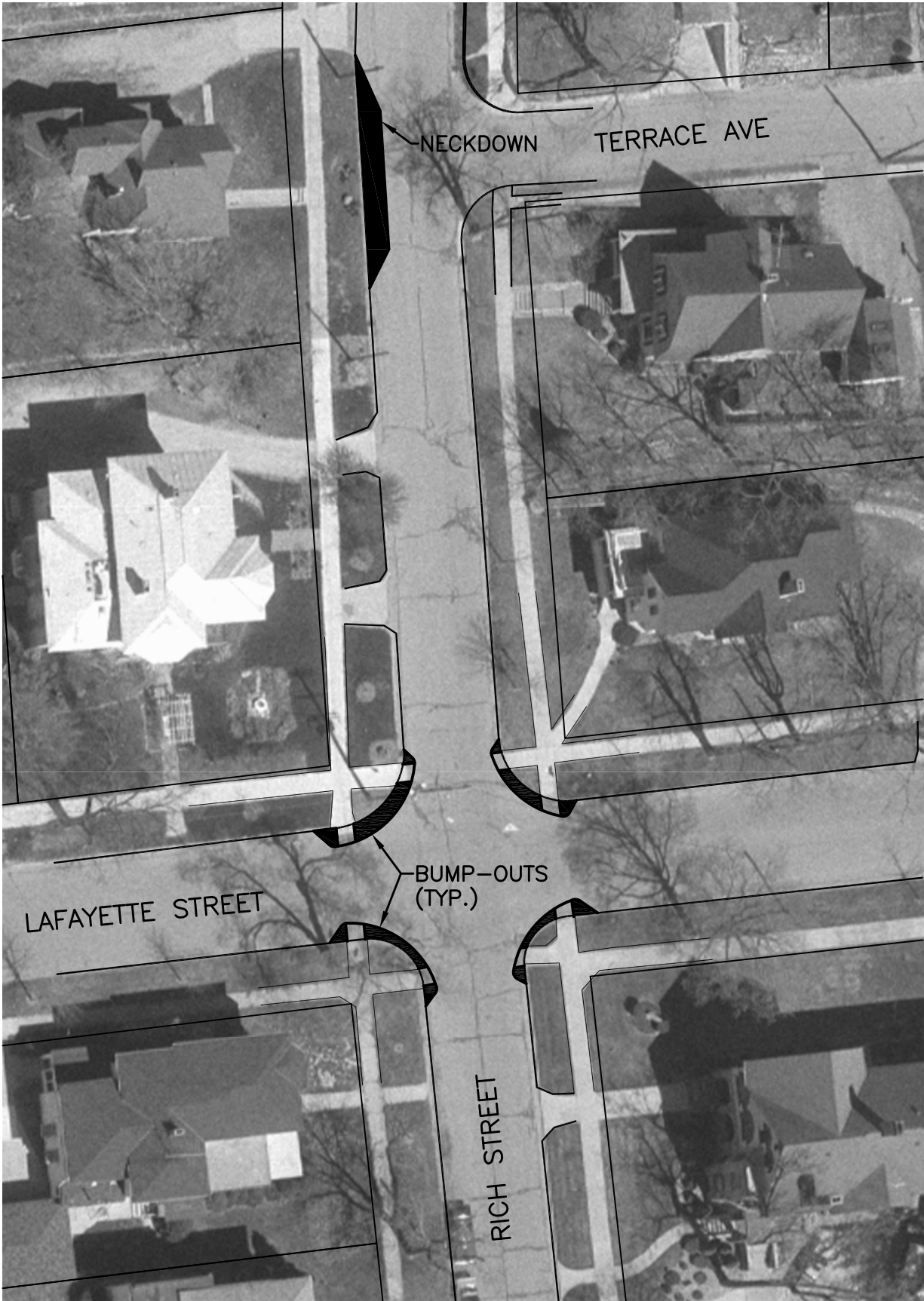
**Adams Street Alternative**

PROJECT NO.

G080051J

FIGURE

**3**



**ftc&h**

**engineers**

**scientists**

**architects**

**constructors**

flshbeck, thompson,  
carr & huber, Inc.

Hard copy is  
intended to be  
8.5"x11" when  
plotted. Scale(s)  
indicated and  
graphic quality may  
not be accurate for  
any other size.

**City of Ionia**  
Traffic Calming Study

**Rich Street Alternative**

PROJECT NO.

G080051J

FIGURE

**4**

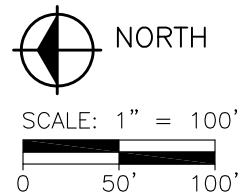
MATCH LINE

THIS SHEET



MATCH LINE

THIS SHEET



**ftc&h**

engineers

scientists

architects

constructors

flshbeck, thompson,  
carr & huber, inc.

Hard copy is  
intended to be  
8.5"x11" when  
plotted. Scale(s)  
indicated and  
graphic quality may  
not be accurate for  
any other size.

**City of Ionia**  
Traffic Calming Study

Washington Street Alternative

PROJECT NO.

G080051J

FIGURE

**5**



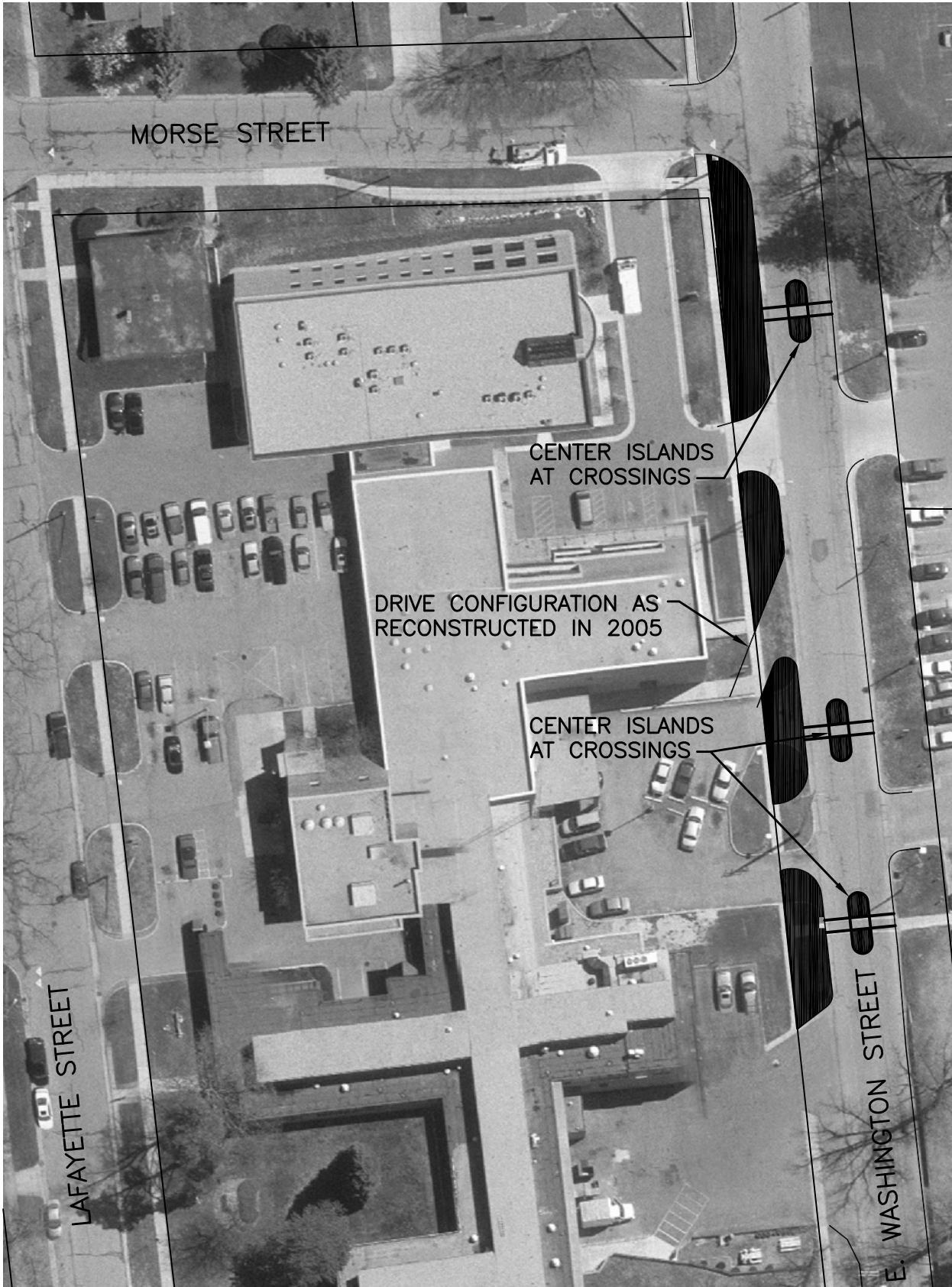
**City of Ionia**  
Traffic Calming Study  
**Washington Street ICMH Alternative**

PROJECT NO.

G080051J

FIGURE

**6**



SCALE: 1" = 60'  
0 30 60





SCALE: 1" = 150'

0 75' 150'

**ftc&h**

**engineers**

**scientists**

**architects**

**constructors**

flshbeck, thompson,  
carr & huber, Inc.

Hard copy is  
intended to be  
8.5"x11" when  
plotted. Scale(s)  
indicated and  
graphic quality may  
not be accurate for  
any other size.

# City of Ionia

Traffic Calming Study

W. Main Street Alternative

PROJECT NO.

G080051J

FIGURE

7

# Appendix 1

COMBINED - Direction 1, Direction 2

Report for Report From 11/6/2008 10:16:00 AM to 11/18/2008 6:11:48 PM

Latitude: 0° 0.000 South

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	No Class
Count	231	31611	11012	269	1505	114	0	92	78	4	0	0	0	1438
Percent	0.5	68.2	23.8	0.6	3.2	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.0	3.1

SPEED STATISTICS - 20 to 45+ by 2 MPH

Speed in MPH	0 - 20	21 - 22	23 - 24	25 - 26	27 - 28	29 - 30	31 - 32	33 - 34	35 - 36	37 - 38	39 - 40	41 - 42	43 - 44	45 - 999
Count	5818	3820	7097	9507	8780	5673	3195	1414	611	229	90	47	26	47
Percent	12.6	8.2	15.3	20.5	18.9	12.2	6.9	3.1	1.3	0.5	0.2	0.1	0.1	0.1

Over Speed

Count	20	22	24	26	28	30	32	34	36	38	40	42	44	999
Percent	87.4	79.2	63.9	43.4	24.4	12.2	5.3	2.3	0.9	0.5	0.3	0.2	0.1	0.0

Percentile Speed

5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	99%
12	19	21	23	25	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54

Average (Mean)

25

Pace Speed

22-31

Number in Pace

35222

Percent in Pace

76.0



Latitude: 0° 0.000 South

COMBINED  
 Report for Report From 10/30/2008 8:38:00 AM to 11/6/2008 10:02:34 AM

**CLASS STATISTICS - Modified Scheme F**

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	No Class
Count	44	2135	716	20	85	2	0	6	1	0	0	0	0	124
Percent	1.4	68.1	22.9	0.6	2.7	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.0

**SPEED STATISTICS - 20 to 45+ by 2 MPH**

Speed in MPH	0 - 20	21 - 22	23 - 24	25 - 26	27 - 28	29 - 30	31 - 32	33 - 34	35 - 36	37 - 38	39 - 40	41 - 42	43 - 44	45 - 999
Count	1033	485	557	475	307	144	81	32	13	2	2	0	0	2
Percent	33.0	15.5	17.8	15.2	9.8	4.6	2.6	1.0	0.4	0.1	0.1	0.0	0.0	0.1
Over Speed	20	22	24	26	28	30	32	34	36	38	40	42	44	999
Count	2100	1615	1058	583	276	132	51	19	6	4	2	2	2	0
Percent	67.0	51.5	33.8	18.6	8.8	4.2	1.6	0.6	0.2	0.1	0.1	0.1	0.1	0.0

Percentile Speed	5%	10%	15%	17%	22%	23%	23%	23%	27%	28%	28%	30%	95%
------------------	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Average 22  
 (Mean)

Pace Speed 19-28  
 Number in 2225  
 Pace  
 Percent in 71.0  
 Pace

COMBINED

Report for Report From 10/30/2008 9:56:00 AM to 11/6/2008 9:07:48 AM

Latitude: 0° 0.000 South

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	No Class
Count	35	2765	966	57	141	1	0	2	1	0	0	0	0	110
Percent	0.9	67.8	23.7	1.4	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7

SPEED STATISTICS - 20 to 45+ by 2 MPH

Speed in MPH	0 - 20	21 - 22	23 - 24	25 - 26	27 - 28	29 - 30	31 - 32	33 - 34	35 - 36	37 - 38	39 - 40	41 - 42	43 - 44	45 - 999
Count	1250	476	499	560	522	346	217	122	60	18	8	0	0	0
Percent	30.7	11.7	12.2	13.7	12.8	8.5	5.3	3.0	1.5	0.4	0.2	0.0	0.0	0.0

Over Speed	20	22	24	26	28	30	32	34	36	38	40	42	44	999
Count	2828	2352	1853	1293	771	425	208	86	26	8	0	0	0	0
Percent	69.3	57.7	45.4	31.7	18.9	10.4	5.1	2.1	0.6	0.2	0.0	0.0	0.0	0.0

Percentile Speed	5%	10%	15%	17%	23%	24%	25%	29%	31%	33%	95%
------------------	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Average 23 (Mean)

Pace Speed 20-29

Number in 2461

Pace

Percent in 60.3

Pace

**JAMAR Technologies, Inc.**

151 Keith Valley Rd.  
 Horsham, PA, USA 19044  
 800-776-0940

Site Code: WASHINGTON  
 Station ID: SERIAL 20518

COMBINED

Latitude: 0° 0.000 South

Report for Report From 10/30/2008 10:28:00 AM to 11/6/2008 10:40:46 AM

**CLASS STATISTICS - Modified Scheme F**

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	89	10732	3542	25	494	27	2	24	1	0	0	0	0	1459
Percent	0.5	65.5	21.6	0.2	3.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	8.9

**SPEED STATISTICS - 20 to 45+ by 2 MPH**

Speed in MPH	0 - 20	21 - 22	23 - 24	25 - 26	27 - 28	29 - 30	31 - 32	33 - 34	35 - 36	37 - 38	39 - 40	41 - 42	43 - 44	45 - 999
Count	2773	1315	2329	2903	2874	2169	1117	556	230	79	27	11	8	4
Percent	16.9	8.0	14.2	17.7	17.5	13.2	6.8	3.4	1.4	0.5	0.2	0.1	0.0	0.0
Over Speed	20	22	24	26	28	30	32	34	36	38	40	42	44	999
Count	13622	12307	9978	7075	4201	2032	915	359	129	50	23	12	4	0
Percent	83.1	75.1	60.9	43.2	25.6	12.4	5.6	2.2	0.8	0.3	0.1	0.1	0.0	0.0

Percentile Speed	5%	10%	15%	20%	25%	30%	31%	33%
Count	0	13	20	25	26	26	30	33

Average 24  
 (Mean)

Pace Speed 22-31  
 Number in 11694

Pace  
 Percent in 71.3  
 Pace







# Appendix 2



# Michigan State Police



[Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#)

[Logout](#)

## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Main St @ N Dexter St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
00:29	07/29/2006	Single Motor Vehicle	Intersection	No	No	Yes	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 20 feet Direction = North									
08:48	10/24/2006	Rear End	Intersection	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 20 feet Direction = North									
11:15	05/24/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 2 feet Direction = North									
13:00	08/29/2006	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 150 feet Direction = North									
13:24	12/22/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 10 feet Direction = West									
14:45	10/02/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
14:45	10/08/2006	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = South									
15:01	05/01/2006	Head On-Left Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
15:15	01/23/2006	Sideswipe-Opposite	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 15 feet Direction = South									
15:45	04/24/2006	Angle	Intersection	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 5 feet Direction = South									
16:12	07/20/2006	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 30 feet Direction = North									
16:23	08/04/2006	Rear End-Right Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 30 feet Direction = North									
17:59	11/10/2006	Rear End	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 20 feet Direction = North									

---

18:36	01/17/2006	Head On-Left Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
-------	------------	-------------------	--------------	----	----	----	----	----------------------	-----------------------

N DEXTER ST @ W MAIN ST Distance = 5 feet Direction = West

---

19:28	02/03/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
-------	------------	-------	--------------	----	----	----	----	----------------------	-----------------------

N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = North

---

Records 1 to 15 of 15

A blue rectangular button with the text "Download Report" in yellow.

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Main St @ Vanderheyden Ct Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Main St @ N Dexter St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
05:45	12/16/2007	Single Motor Vehicle	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = North									
07:20	09/24/2007	Single Motor Vehicle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
09:30	12/03/2007	Head On-Left Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
09:55	01/12/2007	Rear End	Intersection	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 80 feet Direction = North									
10:10	02/07/2007	Head On-Left Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
11:31	03/08/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 100 feet Direction = North									
11:45	04/27/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
14:40	01/21/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
14:50	02/12/2007	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
16:00	10/10/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = Southeast									
18:01	12/17/2007	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 10 feet Direction = South									
16:12	10/05/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = South									
16:45	10/03/2007	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 2 feet Direction = South									

18:06	06/25/2007	Rear End	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 20 feet Direction = North									
19:05	03/06/2007	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 5 feet Direction = North									
20:50	05/05/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 100 feet Direction = North									
22:15	12/01/2007	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									

Records 1 to 17 of 17

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Main St @ Yeomans St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
13:30	12/28/2007	Single Motor Vehicle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
W MAIN ST @ YEOMANS ST Distance = 5 feet Direction = East									
20:00	06/02/2007	Single Motor Vehicle	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
W MAIN ST @ YEOMANS ST Distance = 300 feet Direction = East									

Records 1 to 2 of 2

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Main St @ Vanderheyden Ct **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle	
22:30	12/24/2007	Single Motor Vehicle	Other	No	No	No	No	<a href="#">More</a> <a href="#">UD-10</a>
W MAIN ST @ VANDERHEYDEN CT Distance = 428 feet Direction = East								

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Main St @ N Dexter St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle	More	UD-10
07:01	05/27/2008	Single Motor Vehicle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									
07:25	02/29/2008	Rear End	Other	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 50 feet Direction = North									
12:00	01/25/2008	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 20 feet Direction = North									
13:17	07/22/2008	Rear End-Left Turn	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 30 feet Direction = South									
13:54	06/01/2008	Sideswipe-Same	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 100 feet Direction = Southeast									
17:08	01/10/2008	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 5 feet Direction = South									
21:25	02/08/2008	Sideswipe-Opposite	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
N DEXTER ST @ W MAIN ST Distance = 0 feet Direction = Intersection									

Records 1 to 7 of 7

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Main St @ Yeomans St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Main St @ Vanderheyden Ct **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ Summit St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ E Main St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ Summit St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ E Main St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ Summit St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = Rich St @ E Main St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



# Michigan State Police



[Report Menu](#) | 
 [Contact TCRS](#) | 
 [Related Links](#) | 
 [FAQ](#)

[Logout](#)

## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ S Dexter St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
12:30	09/22/2006	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 30 feet Direction = North									
15:05	03/23/2006	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 20 feet Direction = North									
17:20	11/22/2006	Sideswipe-Opposite	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 0 feet Direction = Intersection									
18:10	10/04/2006	Sideswipe-Same	Other	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 50 feet Direction = South									
23:16	06/09/2006	Angle	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 103 feet Direction = North									

Records 1 to 5 of 5

[Download Report](#)

[Michigan.gov Home](#) | 
 [Report Menu](#) | 
 [Contact TCRS](#) | 
 [Related Links](#) | 
 [FAQ](#) | 
 [MSP Home](#) | 
 [State Web Sites](#) | 
 [Contact MSP](#)

[Privacy Policy](#) | 
 [Link Policy](#) | 
 [Accessibility Policy](#) | 
 [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Adams St @ S Depot St Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
14:30	09/11/2006	Rear End	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEPOT ST @ W ADAMS ST Distance = 50 feet Direction = North									
15:50	11/13/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
W ADAMS ST @ S DEPOT ST Distance = 0 feet Direction = Intersection									

Records 1 to 2 of 2

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Adams St @ Kidd St Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2006 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Adams St @ S Jackson St Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





# Michigan State Police

Michigan.gov

[Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#)

[Logout](#)

## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ S Dexter St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
06:30	11/18/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 60 feet Direction = Southwest									
09:30	05/01/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 200 feet Direction = South									
12:07	02/21/2007	Angle	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 40 feet Direction = North									
12:45	03/17/2007	Sideswipe-Same	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 20 feet Direction = North									
13:30	10/16/2007	Sideswipe-Same	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 0 feet Direction = Intersection									
14:38	09/07/2007	Head On-Left Turn	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 0 feet Direction = Intersection									
15:07	07/19/2007	Rear End	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 116 feet Direction = Southeast									
16:00	11/21/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 30 feet Direction = South									
16:08	12/28/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 0 feet Direction = Intersection									
17:05	01/21/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 20 feet Direction = North									

Records 1 to 10 of 10

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ S Depot St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle	
13:36	09/16/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a> <a href="#">UD-10</a>
S DEPOT ST @ W ADAMS ST Distance = 75 feet Direction = North								

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Adams St @ Kidd St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

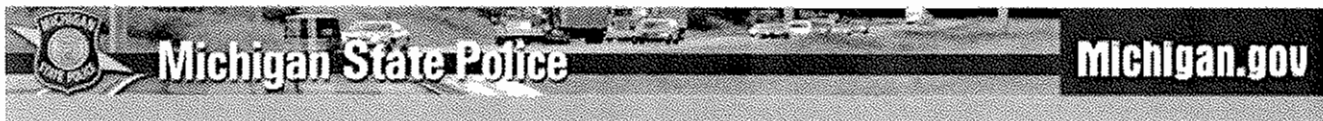
Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan

[Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#)[Logout](#)

## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Adams St @ S Jackson St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
14:04	07/23/2007	Angle	Other	No	No	No	No	More	UD-10
S JACKSON ST @ E ADAMS ST Distance = 50 feet Direction = North									

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ S Dexter St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
08:00	06/10/2008	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 50 feet Direction = South									
15:10	02/12/2008	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 10 feet Direction = South									
17:28	03/21/2008	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
S DEXTER ST @ W ADAMS ST Distance = 0 feet Direction = Intersection									

Records 1 to 3 of 3

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ S Depot St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Adams St @ Kidd St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500 **Crash Type** = Not Reported

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Adams St @ S Jackson St Date Range = 01/01/2008 To 10/28/2008 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = W Washington St @ Steele St Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
19:05	01/28/2006	Single Motor Vehicle	No Value	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>

STEELE ST @ W WASHINGTON ST Distance = 5 feet Direction = South

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ Library Ct Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
14:45	04/21/2006	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ LIBRARY CT Distance = 200 feet Direction = East									

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ N Jackson St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
05:52	12/19/2006	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ N JACKSON ST Distance = 100 feet Direction = West									
18:54	04/05/2006	Angle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ N JACKSON ST Distance = 5 feet Direction = East									
21:55	06/12/2006	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ N JACKSON ST Distance = 0 feet Direction = Intersection									

Records 1 to 3 of 3

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2006 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ Morse St Date Range = 01/01/2006 To 12/31/2006 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ Lovell St **Date Range** = 01/01/2006 To 12/31/2006 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Washington St @ Steele St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
16:49	12/27/2007	Rear End	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
W WASHINGTON ST @ STEELE ST Distance = 0 feet Direction = Intersection									

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ Library Ct Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle	
16:00	01/24/2007	Angle	Other	No	No	No	No	<a href="#">More</a> <a href="#">UD-10</a>
E WASHINGTON ST @ LIBRARY CT Distance = 160 feet Direction = East								

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ N Jackson St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
13:48	12/28/2007	Sideswipe-Same	Other	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ N JACKSON ST Distance = 150 feet Direction = East									

Records 1 to 1 of 1

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ Morse St Date Range = 01/01/2007 To 12/31/2007 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle		
08:45	11/30/2007	Single Motor Vehicle	Intersection	No	No	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ MORSE ST Distance = 30 feet Direction = West									
12:03	08/01/2007	Other/Unknown	Intersection	No	Yes	No	No	<a href="#">More</a>	<a href="#">UD-10</a>
MORSE ST @ E WASHINGTON ST Distance = 40 feet Direction = North									
14:20	07/16/2007	Single Motor Vehicle	Intersection	No	No	No	Yes	<a href="#">More</a>	<a href="#">UD-10</a>
E WASHINGTON ST @ MORSE ST Distance = 0 feet Direction = Intersection									

Records 1 to 3 of 3

[Download Report](#)

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan





## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ Lovell St **Date Range** = 01/01/2007 To 12/31/2007 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = W Washington St @ Steele St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ Library Ct **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ N Jackson St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for **County** = Ionia **City/Township** = Ionia **Street** = E Washington St @ Morse St **Date Range** = 01/01/2008 To 10/28/2008 **Time Range** = 00:00 To 23:59 **Distance** = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan



## Traffic Crash Reporting System - Crash Detail Report

You searched for County = Ionia City/Township = Ionia Street = E Washington St @ Lovell St Date Range = 01/01/2008 To 10/28/2008 Time Range = 00:00 To 23:59 Distance = 500

Time	Date	Type	Area	Alcohol Related	Commercial Vehicles	Pedestrian	Bicycle
------	------	------	------	--------------------	------------------------	------------	---------

No records were found for the selected criteria.

Records 0 to 0 of 0

[Michigan.gov Home](#) | [Report Menu](#) | [Contact TCRS](#) | [Related Links](#) | [FAQ](#) | [MSP Home](#) | [State Web Sites](#) | [Contact MSP](#)  
[Privacy Policy](#) | [Link Policy](#) | [Accessibility Policy](#) | [Security Policy](#)

© 2001 - 2008 State of Michigan

# Appendix 3

# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
Location: City of Ionia  
Work: \_\_\_\_\_  
\_\_\_\_\_

Date: 1/8/2009  
Project No. G080051J  
Reviewer: CEW

FIGURE	DESCRIPTION
<u>3</u>	Adams Street Alternative
Construction Cost: \$61,700.00	
<u>4</u>	Rich Street Alternative
Construction Cost: \$31,200.00	
<u>5</u>	Washington Street Alternative
Construction Cost: \$103,300.00	
<u>6</u>	Washington Street ICMH Alternative
Construction Cost: \$31,500.00	
<u>7</u>	W. Main Street Alternative
Construction Cost: \$35,900.00	
Construction Total \$263,600.00	
Geotechnical Investigation \$5,000.00	
Material Testing \$10,000.00	
Design & Construction Eng (15%) \$39,540.00	
Project Total Cost \$318,140.00	



# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
 Location: City of Ionia  
 Work: Adams Street Alternative Fig. #3

Date: 12/12/2008  
 Project No. G080051J  
 Reviewer: CEW

Item No.	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b><u>Demo</u></b>					
1	Rem HMA Surface	Syd	721	2.00	1,442.89
2	Rem Concrete Sidewalk	Sft	68	1.00	68.00
3	Rem Curb and Gutter	Ft	363	4.50	1,633.50
4	Sawcut Pavement	Ft	856	1.50	1,284.00
5	Rem Dr Structure	Ea	0	250.00	-
6	Rem Sewer Pipe	Ft	0	5.00	-
<b>DEMOLITION SUB-TOTAL</b>					<b>\$ 4,428.39</b>
<b><u>Proposed</u></b>					
7	Grading to Subgrade	Syd	523	3.50	1,831.67
8	Aggregate Base 8"	Syd	523	8.00	4,186.67
9	HMA Hand Patching	Ton	71	75.00	5,292.83
10	Concrete Curb & Gutter	Ft	704	15.00	10,560.00
11	Concrete Sidewalk 4"	Sft	0	5.00	-
12	ADA Concrete Sidewalk Ramp	Sft	155	6.50	1,007.50
13	Concrete Pavement	Sft	1668	6.00	10,008.00
14	Pavement Marking	LS	1	1,000.00	1,000.00
15	Topsoil & Seed	Syd	215	5.50	1,184.33
16	Signs	Ea	6	200.00	1,200.00
17	4" perforated underdrain	Ft	704	6.00	4,224.00
18	12" RCP Storm Pipe	Ft	40	40.00	1,600.00
19	Dr Structure, 2' Dia Catch Basin	Ea	4	1,400.00	5,600.00
<b><u>Misc.</u></b>					
20	Maintaining Traffic	LS	1	1,000.00	1,000.00
21	Soil Erosion Control	LS	1	500.00	500.00
<b>PROPOSED SUB-TOTAL</b>					<b>\$ 49,195.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 53,623.39</b>
<b>15% Contingency</b>					<b>\$ 8,043.51</b>
<b>PROJECT TOTAL</b>					<b>\$ 61,666.90</b>

# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
 Location: City of Ionia  
 Work: Rich Street Alternative Fig. #4

Date: 12/12/2008  
 Project No. G080051J  
 Reviewer: CEW

Item No.	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b><u>Demo</u></b>					
1	Rem HMA Surface	Syd	169	2.00	338.44
2	Rem Concrete Sidewalk	Sft	457	1.00	457.00
3	Rem Curb and Gutter	Ft	208	4.50	936.00
4	Sawcut Pavement	Ft	303	1.50	454.50
<b>DEMOLITION SUB-TOTAL</b>					<b>\$ 2,185.94</b>
<b><u>Proposed</u></b>					
7	Grading to Subgrade	Syd	167	3.50	582.94
8	Aggregate Base 8"	Syd	167	8.00	1,332.44
9	HMA Hand Patching	Ton	22	75.00	1,666.50
10	Concrete Curb & Gutter	Ft	237	15.00	3,555.00
11	Concrete Sidewalk 4"	Sft	400	5.00	2,000.00
12	ADA Concrete Sidewalk Ramp	Sft	590	6.50	3,835.00
13	Concrete Pavement	Sft	0	6.00	-
14	Pavement Marking	LS	1	1,000.00	1,000.00
15	Topsoil & Seed	Syd	68	5.50	375.22
16	Signs	Ea	2	200.00	400.00
17	4" perforated underdrain	Ft	237	6.00	1,422.00
18	12" RCP Storm Pipe	Ft	40	40.00	1,600.00
19	Dr Structure, 2' Dia Catch Basin	Ea	4	1,400.00	5,600.00
<b><u>Misc.</u></b>					
20	Maintaining Traffic	LS	1	1,000.00	1,000.00
21	Soil Erosion Control	LS	1	500.00	500.00
<b>PROPOSED SUB-TOTAL</b>					<b>\$ 24,869.11</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 27,055.06</b>
<b>15% Contingency</b>					<b>\$ 4,058.26</b>
<b>PROJECT TOTAL</b>					<b>\$ 31,113.31</b>

# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
 Location: City of Ionia  
 Work: Washington Street Alternative Fig. #5

Date: 12/12/2008  
 Project No. G080051J  
 Reviewer: CEW

Item No.	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b><u>Demo</u></b>					
1	Rem HMA Surface	Syd	752	2.00	1,504.44
2	Rem Concrete Sidewalk	Sft	1379	1.00	1,379.00
3	Rem Curb and Gutter	Ft	955	4.50	4,297.50
4	Sawcut Pavement	Ft	1239	1.50	1,858.50
5	Rem Dr Structure	Ea	0	250.00	-
6	Rem Sewer Pipe	Ft	0	5.00	-
<b>DEMOLITION SUB-TOTAL</b>					<b>\$ 9,039.44</b>
<b><u>Proposed</u></b>					
7	Grading to Subgrade	Syd	569	3.50	1,991.89
8	Aggregate Base 8"	Syd	569	8.00	4,552.89
9	HMA Hand Patching	Ton	81	75.00	6,081.17
10	Concrete Curb & Gutter	Ft	1050	15.00	15,750.00
11	Concrete Sidewalk 4"	Sft	1200	5.00	6,000.00
12	ADA Concrete Sidewalk Ramp	Sft	1805	6.50	11,732.50
13	Concrete Pavement	Sft	0	6.00	-
14	Pavement Marking	LS	1	1,500.00	1,500.00
15	Topsoil & Seed	Syd	384	5.50	2,110.17
16	Signs	Ea	8	200.00	1,600.00
17	4" perforated underdrain	Ft	1050	6.00	6,300.00
18	12" RCP Storm Pipe	Ft	120	40.00	4,800.00
19	Dr Structure, 2' Dia Catch Basin	Ea	12	1,400.00	16,800.00
<b><u>Misc.</u></b>					
20	Maintaining Traffic	LS	1	1,000.00	1,000.00
21	Soil Erosion Control	LS	1	500.00	500.00
<b>PROPOSED SUB-TOTAL</b>					<b>\$ 80,718.61</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 89,758.06</b>
<b>15% Contingency</b>					<b>\$ 13,463.71</b>
<b>PROJECT TOTAL</b>					<b>\$ 103,221.76</b>

# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
 Location: City of Ionia  
 Work: Washington Street ICMH Alternative Fig. #6

Date: 12/12/2008  
 Project No. G080051J

Reviewer: CEW

Item No.	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b><u>Demo</u></b>					
1	Rem HMA Surface	Syd	175	2.00	350.00
2	Rem Concrete Sidewalk	Sft	0	1.00	-
3	Rem Curb and Gutter	Ft	54	4.50	243.00
4	Sawcut Pavement	Ft	294	1.50	441.00
5	Rem Dr Structure	Ea	0	250.00	-
6	Rem Sewer Pipe	Ft	0	5.00	-
<b>DEMOLITION SUB-TOTAL</b>					<b>\$ 1,034.00</b>
<b><u>Proposed</u></b>					
7	Grading to Subgrade	Syd	175	3.50	612.50
8	Aggregate Base 8"	Syd	175	8.00	1,400.00
9	HMA Hand Patching	Ton	25	75.00	1,870.00
10	Concrete Curb & Gutter	Ft	231	15.00	3,465.00
11	Concrete Sidewalk 4"	Sft	0	5.00	-
12	ADA Concrete Sidewalk Ramp	Sft	493	6.00	2,958.00
13	Concrete Pavement	Sft	438	6.50	2,847.00
14	Pavement Marking	LS	1	1,500.00	1,500.00
15	Topsoil & Seed	Syd	0	5.50	-
16	Signs	Ea	6	200.00	1,200.00
17	Decorative Fence	LS	1	9,000.00	9,000.00
18	12" RCP Storm Pipe	Ft	0	40.00	-
19	Dr Structure, 2' Dia Catch Basin	Ea	0	1,400.00	-
<b><u>Misc.</u></b>					
20	Maintaining Traffic	LS	1	1,000.00	1,000.00
21	Soil Erosion Control	LS	1	500.00	500.00
<b>PROPOSED SUB-TOTAL</b>					<b>\$ 26,352.50</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 27,386.50</b>
<b>15% Contingency</b>					<b>\$ 4,107.98</b>
<b>PROJECT TOTAL</b>					<b>\$ 31,494.48</b>

# Construction Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

Project: Traffic Calming Study  
 Location: City of Ionia  
 Work: W. Main Street Alternative Fig. #7

Date: 12/12/2008  
 Project No. G080051J  
 Reviewer: CEW

Item No.	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b><u>Demo</u></b>					
1	Rem HMA Surface	Syd	437	2.00	874.22
2	Rem Concrete Sidewalk	Sft	0	1.00	-
3	Rem Curb and Gutter	Ft	356	4.50	1,602.00
4	Sawcut Pavement	Ft	489	1.50	733.50
5	Rem Dr Structure	Ea	0	250.00	-
6	Rem Sewer Pipe	Ft	0	5.00	-
<b>DEMOLITION SUB-TOTAL</b>					<b>\$ 3,209.72</b>
<b><u>Proposed</u></b>					
7	Grading to Subgrade	Syd	437	3.50	1,529.89
8	Aggregate Base 8"	Syd	170	8.00	1,361.78
9	HMA Hand Patching	Ton	37	75.00	2,808.67
10	Concrete Curb & Gutter	Ft	390	18.00	7,020.00
11	Concrete Sidewalk 4"	Sft	0	5.00	-
12	ADA Concrete Sidewalk Ramp	Ea	0	6.50	-
13	Concrete Pavement	Sft	0	6.00	-
14	Pavement Marking	LS	1	1,500.00	1,500.00
15	Topsoil & Seed	Syd	267	5.50	1,467.89
16	Signs	Ea	6	200.00	1,200.00
17	4" perforated underdrain	Ft	390	6.00	2,340.00
18	12" RCP Storm Pipe	Ft	40	40.00	1,600.00
19	Dr Structure, 2' Dia Catch Basin	Ea	4	1,400.00	5,600.00
<b><u>Misc.</u></b>					
20	Maintaining Traffic	LS	1	1,000.00	1,000.00
21	Soil Erosion Control	LS	1	500.00	500.00
<b>PROPOSED SUB-TOTAL</b>					<b>\$ 27,928.22</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 31,137.94</b>
<b>15% Contingency</b>					<b>\$ 4,670.69</b>
<b>PROJECT TOTAL</b>					<b>\$ 35,808.64</b>